

REMARKS/ARGUMENTS

This amendment accompanies a Request for Continued Examination (RCE) filed concurrently herewith.

Reconsideration of this application is requested. Claims 167, 172 and 177 will be active in the application subsequent to entry of this Amendment.

This Amendment incorporates the Amendment filed June 14, 2006 which was refused entry in an Advisory Action dated June 27, 2006. This Amendment also addresses issues presented in the Advisory Action.

The Official Action of November 23, 2005 points out various concerns directed to claims 167-176. As a result of the Examiner's objections the claims have been revised and are now directed to a biocompatible silicon product comprising a drug and porous silicon, which has been obtained by heating with an oxidizing agent. *See* claims 167 and 172.

As to the amendments made to claim 167, the biocompatibility of the product is mentioned at page 32 (line 10), page 38 (lines 12 and 25), page 39 (lines 1 and 9). The semiconductor silicon product obtained by heating is mentioned at page 2 (lines 27 to 28), page 11 (lines 14 to 22), paragraph spanning pages 30 and 31. The use of an oxidizing agent is described at page 12 (lines 5 to 12).

New claim 177 is based on page 4 of the description (lines 4 to 6) in combination with page 17 (lines 11 to 13) and page 26 (lines 19 to 22).

These amendments to the claims, including cancellation of various contentious claims, are believed to advance examination and render the claims compliant with 35 USC §112, first and second paragraphs. Favorable consideration is requested.

The Advisory Action of June 27, 2006, relating to the *non-entered* Amendment of June 14, 2006, questioned basis in the original description for the terms "organic drug" and "oxidizing agent". The term "organic drug" has been revised to refer simply to "a drug" as in original claim 1. The term "oxidizing agent" is appropriate as the word "oxidant" appears in the passage at page 12, lines 5-12. Attached is a page from **Chambers Combined Dictionary Thesaurus** (ISBN number 0-550-10590-5) providing a dictionary definition of "oxidant", which shows that it is equivalent to "oxidising agent". The terminology used in amended claim 167 finds ample basis in the description of the invention for the reasons just mentioned.

The Office Action of April 27, 2006 contains a single prior art-based rejection directed to claims 167-173, 175 and 176. To the extent that the examiner's concerns may extend to the new and amended claims presented above, this rejection is traversed. The rejection is one of alleged anticipation based on WO 97/06101 (hereinafter "WO'101").

WO '101 does not describe a biocompatible mesoporous silicon product, comprising a drug located in its pores, which has been obtained by heating with an oxidizing agent. It follows that claim 167 is novel with regard to WO '101.

WO '101 describes the oxidation of porous silicon at several locations. However, it emphasizes the importance of contact between the biological environment and the semiconductor silicon (paragraph spanning pages 4 and 5 of WO '101).

The significance of interaction with semiconductor silicon is underlined by the complete removal of the mesoporous silicon in SBF, described in the paragraph spanning pages 13 and 14 of WO '101, which shows that it is the silicon, and not silicon oxide, which is reacting in the simulated biological environment.

This is further underlined by the link between bioactivity and the slight resorption of the semiconductor silicon, as opposed to silicon oxide, mentioned at page 14 lines 16 to 17; the dissolution of silicon, in simulated body fluid, resulting in a silicon oxide layer.

These elements of the disclosure, which emphasize the use of semiconducting silicon, would lead the skilled person away from the use of an oxidizing agent, that would result in oxidation of the silicon, and it follows that new claim 167 is not obvious in the light of the cited document.

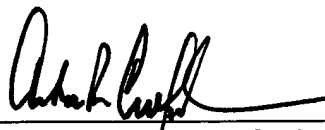
CANHAM et al.
Appl. No. 09/647,599
July 14, 2006

For the above reasons it is respectfully submitted that the claims define inventive subject matter. Reconsideration and allowance of this application is solicited. Should the examiner require further information please contact the undersigned.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: _____



Arthur R. Crawford
Reg. No. 25,327

ARC:eaw
901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4000
Facsimile: (703) 816-4100

CHAMBERS COMBINED DICTIONARY THESAURUS

Edited by
Martin Manser
and
Megan Thomson

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oviform - oxyacetylene

oviform *adj.* egg-shaped. [from Latin *ovum*, egg + -FORM]

ovine *adj.* of or like sheep. [from Latin *ovis*, sheep]

oviparity *noun* *Zool.* the laying of fertilized eggs which hatch outside the body of a female animal. [from Latin *ovum*, egg + *parere*, to bring forth]

oviparous /ou'vipərəs/ *adj.*, said of birds, fish, etc producing eggs which hatch outside the mother's body. See also **VIVIPAROUS**. [from Latin *ovum*, egg + *parere*, to produce]

ovipositor *noun* *Zool.* in female insects, the egg-laying organ, which is often long and tube-like, at the rear end of the abdomen. [from Latin *ovum*, egg + *positor*, from *ponere*, to place]

ovoid — *adj.* egg-shaped. — *noun* an egg-shaped form or object. [from Latin *ovum*, egg + -OID]

ovoviviparous *adj.* *Zool.* describing certain fish and reptiles, and many insects, in which the fertilized eggs hatch within the body of the female. The developing embryo is retained within the body of the mother, and derives nutrients from a yolk store instead of a placenta. [from Latin *ovum*, egg + **VIVIPAROUS**]

ovulate *verb intrans.* to produce eggs from the ovary. [from Latin *ovulum*, diminutive of *ovum*, egg]

ovulation *noun* 1 the production and release of eggs in an ovary. 2 an instance of this.

ovule *noun* *Bot.* in flowering and cone-bearing plants, the structure that develops into a seed after fertilization. It consists of a mass of tissue (the *nucellus*) containing the embryo sac, surrounded by one or two protective layers (*integuments*), which develop into the seed coat. [from Latin *ovulum*, diminutive of *ovum*, egg]

ovum *noun* (PL. ova) *Biol.* an unfertilized egg or egg cell produced by the ovary of an animal; a female gamete. [from Latin *ovum*, egg]

ow *interj.* used to express sudden, usually mild, pain.

owe *verb* 1 *trans.*, *intrans.* to be under an obligation to pay (money) to (someone). 2 to feel required by duty or gratitude to do or give: *owe you an explanation*. 3 to have or enjoy as a result of: *owe her promotion to her hard work*. [from Anglo-Saxon *agan*, to own]

owing *adj.* still to be paid; due. — *owing to something* because of it; on account of it: *trains will be delayed owing to bad weather*.

unpaid, due, owed-in arrears, outstanding, payable, unsettled, overdue, owing to because of, on account of, as a result of

owl *noun* any nocturnal bird of prey belonging to the order Strigiformes, found in all parts of the world except Antarctica, and having a large broad head, a flat face, large forward-facing eyes, and a short hooked beak. It is noted for its hooting call. [from Anglo-Saxon *ule*]

owllet *noun* a young owl.

owlish *adj.* 1 like an owl. 2 solemn or wise.

own — *adj.*, often used for emphasis belonging to or for oneself or itself: *my own sister*. — *pron.* one or something belonging to oneself or itself: *have a room of one's own*. — *verb* 1 to have as a possession or property. 2 (own something or own to something) to admit or confess it: *one should own one's faults* / *owned to many weaknesses*. — *get one's own back on someone* *colloq.* to get even with them; to have one's revenge. *on one's own* 1 alone. 2 without help. *own up to something* to admit a wrongdoing, etc. [from Anglo-Saxon *agen*]

personal, individual, private, particular, idiosyncratic, possessive, hold, retain, keep, enjoy, 2 admit, confess, acknowledge, own up to, admit, confess, colloq. come clean, tell the truth, acknowledge

owner *noun* a person who owns something.

possessor, holder, landlord, landlady, proprietor, proprietress, master, mistress, freeholder

owner-occupier *noun* a person who owns the property he or she is living in.

ownership *noun* 1 the status of owner. 2 legal right of possession.

own goal 1 a goal scored by mistake for the opposing team. 2 *colloq.* a move that turns out to be to the disadvantage of the person who took it.

ox *noun* (PL. oxen) 1 any common domestic cattle, including bulls and cows, used for pulling loads, or supplying meat and milk. 2 a castrated bull. [from Anglo-Saxon *ox*]

oxalic acid *Chem.* (FORMULA COOH₂) a highly poisonous white crystalline solid that occurs in the leaves of rhubarb, wood sorrel, and certain other plants, and is excreted in the form of crystals by many fungi. It is used as a rust and stain remover, and in tanning and bleaching. Also called ETHANEDIOIC ACID. [from Greek *oxalis*, wood sorrel]

oxbow lake *Geol.* a shallow curved lake found on a floodplain alongside a meandering river, and formed when one of the meanders has been cut off from the river. The result of the formation of a stream across the neck of a bend, which shortens the course of the river.

Oxbridge *noun* *Brit.* the universities of Oxford and Cambridge considered together and usually in comparison with other universities.

oxen see **OX**.

oxeye daisy a daisy with long white petals and a yellow centre.

OXFAM in the UK, a charity based in Oxford, founded in 1945, the Oxford Committee for Famine Relief (1945), dedicated to alleviating poverty and distress throughout the world, mainly through long-term development projects in Third World countries.

oxidant *noun* 1 *Chem.* an oxidizing agent. 2 *Engineering* a chemical compound, usually containing oxygen, that is mixed with fuel and burned in the combustion chamber of a rocket.

oxidase /'oksiderə/ *noun* *Biochem.* any of a group of enzymes that catalyse oxidation in plant and animal cells.

oxidation *noun* *Chem.* a chemical reaction that involves the addition of oxygen to or the removal of hydrogen from a substance, which loses electrons. It is always accompanied by *reduction*. Both combustion and corrosion, such as rusting, are examples of processes involving oxidation. See also **REDUCTION**.

oxide *noun* *Chem.* a compound of oxygen and another element. [from French, from *oxygène*, oxygen]

oxidization or oxidisation *noun* the process of oxidizing

oxidize or oxidise *verb trans.*, *intrans.* *Chem.* 1 to combine with oxygen. 2 to make or become rusty.

oxidizing agent *Chem.* any substance that oxidizes another substance in a chemical reaction, and is itself reduced in the process, by accepting electrons.

oxlip *noun* 1 a naturally occurring hybrid of the common primrose (*Primula vulgaris*) and the cowslip (*Primula veris*), with deep yellow flowers that are not borne in a one-sided cluster. Also called FALSE OXSLIP. 2 the oxlip (*Primula elatior*), which is a separate species of primrose and cowslip, and has pale yellow flowers borne in a one-sided cluster.

Oxon *abbrev.* 1 Oxfordshire. 2 especially in degree, the Oxford University. [from Latin *Oxonienensis*, of Oxford]

Oxonian — *noun* 1 an inhabitant of Oxford. 2 a student or graduate of Oxford University. — *adj.* of Oxford or Oxford University. [from Latin *Oxonia*, Oxford]

oxtail *noun* the tail of an ox, used especially in soups and stews.

oxyacetylene /'oksia'setilin/ *noun* a mixture of oxygen and acetylene, which burns at a very high temperature.